

APRIL/MAY 2025

**23UDA31 — FUNDAMENTALS OF DATA
SCIENCE**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are the components of data science process?
2. State Boolean Indexing.
3. Specify the features of Pandas
4. Define Index Objects in Pandas.
5. Name CSV Parser.
6. How Files are loaded into primary memory?
7. Classify Stacked Format.
8. What is Data Transformation?
9. How can Create data in Matplotlib.
10. What is Ticks ?



SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) List out the Fundamentals of Numpy.

Or

- (b) State Sorting in Data Science in brief.

12. (a) Outline Dropping entries from an axis.

Or

- (b) Elucidate Data structures in Pandas library.

13. (a) Elaborate Binary data formats.

Or

- (b) Expound Basics of XML for web scraping.

14. (a) Comparison between Merging and Concatenating data frames.

Or

- (b) Explain how to Replace Missing values in Data Wrangler.

15. (a) Difference between Legends and Labels.

Or

- (b) Illustrate Key characteristics of Plot Makers.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the roles and responsibilities of a Data Scientist in detail.

17. Demonstrate Essential Functionality of Pandas Library.

18. Construct HDF5 files with sample program.

19. Discuss about Reshaping and Pivoting in brief.

20. Delegate Plotting functions in Pandas.

